

WHAT is claimed is:

1. An optical data recording medium comprising a transparent substrate, a thin film layer formed on the transparent substrate and a protective film which is mainly comprised of a resin and formed on the thin film layer for protecting the thin film layer, wherein the thin film layer is a single layered or multilayered film including at least any one of a dielectric film, a recording film and a reflective film, and an expansion coefficient under humidity [ratio of expansion (1/%) where a difference of relative humidity (vapor content/saturated vapor amount at 25°C) is increased by 1%] of the protective film is greater than that of the transparent substrate and smaller than $1.7 \times 10^{-4}(1/\%)$.

2. An optical data recording medium comprising a transparent substrate, a thin film layer formed on the transparent substrate and a protective film which is mainly comprised of a resin and formed on the thin film layer for protecting the thin film layer, wherein the thin film layer is a single layered or multilayered film including at least any one of a dielectric film, a recording film and a reflective film, and a Young's modulus of the protective film is greater than that of the transparent substrate, greater than $2.0 \times 10^9(\text{Pa})$ and smaller than $1.0 \times 10^{10}(\text{Pa})$.

3. An optical data recording medium according to any one of claims 1 and 2, wherein a thickness of the protective film is 5 μm or more to 20 μm or less.

5

4. An optical data recording medium according to claim 1, wherein the expansion coefficient under humidity of the protective film is 7 or less times as great as that of the transparent substrate, the expansion coefficient under
10 humidity being greater than 7×10^{-6} (1/%) and smaller than 5×10^{-5} (1/%).

5. An optical data recording medium according to any one of claims 1 and 2, wherein the transparent substrate is
15 made of a polycarbonate or a polyolefin and a thickness thereof is about 0.5 mm.

6. An optical data recording medium according to any one of claims 1 and 2, wherein the protective film is made of
20 an ultraviolet light curing resin.

7. A method of selecting a protective film in an optical data recording medium, the optical data recording medium comprising a transparent substrate, a thin film layer formed on
25 the transparent substrate and the protective film which is

mainly comprised of a resin and formed on the thin film layer for protecting the thin film layer, wherein, on condition that the thin film layer is a single layered or multilayered film including at least any one of a dielectric film, a recording film

5 and a reflective film and the transparent substrate is made of a polycarbonate or a polyolefin with a thickness of 0.5 mm, the protective film is selected such that an expansion coefficient under humidity thereof (ratio of expansion (1/%) where a difference of relative humidity (vapor content/saturated vapor amount at 25°C) is increased by 1%) is greater than that of the
10 transparent substrate and smaller than 1.7×10^{-4} (1/%).

8. A method of selecting a protective film in an optical data recording medium, the optical data recording medium

15 comprising a transparent substrate, a thin film layer formed on the transparent substrate and the protective film which is mainly comprised of a resin and formed on the thin film layer for protecting the thin film layer, wherein, on condition that the thin film layer is a single layered or multilayered film
20 including at least any one of a dielectric film, a recording film and a reflective film and the transparent substrate is made of a polycarbonate or a polyolefin with a thickness of 0.5 mm, the protective film is selected such that a Young's modulus thereof is greater than that of the transparent substrate, greater than
25 2.0×10^9 (Pa) and smaller than 1.0×10^{10} (Pa).

